Curriculum Vitae

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Employment History

09/2007 onward	Group manager "Hydrogen Technology" at the Fraunhofer Institute for Manufacturing Technology and Advanced Materials (IFAM), Dresden
05/2007 – 08/2007	Research staff at TU Dresden, Institute of Materials Science
11/2003 – 04/2007	Research staff at Research Center Dresden-Rossendorf, Institute for Ion Beam Physics and Materials Research

Education

12/2007	Graduation: *Dr. rer. nat.* (grade: *summa cum laude*); doctoral thesis: Shape Evolution of Nanostructures by Thermal and Ion Beam Processing – Modeling & Atomistic Simulations
09/2003	Graduation: *Diplom-Physiker* (grade: very good); diploma thesis: Self-Organization of Si Nanocluster δ-Layers at Ion-Beam-Mixed Si-SiO_2 Interfaces
09/2000 – 05/2001	Study of Physics, Philosophy, Intl. Relations at Boston University, MA, USA
10/1997 – 09/2003	Study of Physics at TU Dresden
06/1996	*Abitur* (grade average: 1.0)
09/1984 – 06/1996	School attendance

Practical Experience

06/2001 – 12/2006	Freelance tourist guide in the Dresden Opera House "Semperoper" (English and German)
09/2001 – 09/2002	Student employee with AMD Saxony LLC (Material Analysis Department); topic: Soft-error sensitivity of SOI devices
08/1998 – 09/1999	Student employee at the Fraunhofer Institute for Electron Beam and Plasma Physics (FEP); topics: Optical plasma emissions in the reactive bipolar pulse magnetron sputtering process of titanium oxide; DC sputtering of zinc oxide
08/1997 – 10/1997	Internship at the Institute for Applied Physics at TU Dresden; topic: DC conductivity of oxides, intermetallic and rare-earth transition-metal compounds

Awards

E.ON International Research Initiative Award, 2010.

E-MRS Young Scientist Award, Strasbourg, France, 2004.

IBMM 2004 Poster Award, Monterey, USA, 2004.

Scholarship of the *Kulturstiftung Dresden der Dresdner Bank*, 2000 – 2001.

Further Skills

computer	C/C++, Kinetic Monte Carlo, Basic, Latex, PovRay, RasMol, TRIM, TRIDYN, FlexPDE, Comsol Multiphysics, Maple, Corel Draw, Origin, MS-Office, Windows/Linux
experiment	TEM, SEM, ion beam techniques, thin-film deposition techniques, ellipsometry, thermoanalytical techniques, diffraction and scattering techniques, rapid solidification techniques
languages	German (native language), English (fluent), Spanish (basic), Latin, Ancient Greek, Russian (school level)
hobbies	strawberry breeding, tennis, ancient egypt, architecture, glaze techniques

Publications

[1] S. Kalinichenka, **L. Röntzsch**, Th. Riedl, Th. Weißgärber, B. Kieback, *Hydrogen storage properties and microstructure of melt-spun $Mg_{90}Ni_8RE_2$ (RE = Y, Nd, Gd)*, Intl. J. Hydrogen Energy **36** (2011) pp. 10808-10815.

[2] S. Kalinichenka, **L. Röntzsch**, Th. Riedl, Th. Gemming, Th. Weißgärber, B. Kieback, *Microstructure and hydrogen storage properties of melt-spun Mg-Cu-Ni-Y alloys*, Intl. J. Hydrogen Energy **36** (2011) pp. 1592-1600.

[3] C. Pohlmann, **L. Röntzsch**, S. Kalinichenka, Th. Hutsch, Th. Weißgärber, B. Kieback, *Hydrogen storage properties of compacts of melt-spun $Mg_{90}Ni_{10}$ flakes and expanded natural graphite*, J. Alloys Compds. **509S** (2011) pp. S625-S628.

[4] S. Kalinichenka, **L. Röntzsch**, C. Baehtz, Th. Weißgärber, B. Kieback, *Hydrogen desorption properties of melt-spun and hydrogenated Mg-based alloys using in situ synchrotron X-ray diffraction and TGA*, J. Alloys Compds. **509S** (2011) pp. S629-S632.

[5] Th. Schmidt, **L. Röntzsch**, Th. Weißgärber, B. Kieback, *Reversible hydrogen storage in Ti–Zr-codoped $NaAlH_4$ under realistic operation conditions: Part 2*, J. Alloys Compds. **509S** (2011) pp. S740-S742.

[6] C. Pohlmann, **L. Röntzsch**, S. Kalinichenka, Th. Hutsch, B. Kieback, *Magnesium alloy-graphite composites with tailored heat conduction properties for hydrogen storage applications*, Intl. J. Hydrogen Energy **35** (2010) pp. 12829-12836.

[7] Th. Schmidt, **L. Röntzsch**, *Reversible hydrogen storage in Ti-Zr-codoped $NaAlH_4$ under realistic operation conditions*, J. Alloys Compds. **496** (2010) pp. L38-L40.

[8] S. Kalinichenka, **L. Röntzsch**, C. Baehtz, B. Kieback, *Hydrogen desorption kinetics of melt-spun and hydrogenated $Mg_{90}Ni_{10}$ and $Mg_{80}Ni_{10}Y_{10}$ using in situ synchrotron, X-ray diffraction and thermogravimetry*, J. Alloys Compds. **496** (2010) pp. 608-613.

[9] **L. Röntzsch**, Th. Schmidt, S. Kalinichenka, C. Pohlmann, A. Schmidt, Th. Weißgärber, B. Kieback, *Wasserstoffspeicherung in nanoskaligen Feststoffen*, pp. 41-56 in H. Kolaska (Ed.):

Energie- und Ressourceneffizienz durch Pulvermetallurgie. Proceedings 28th Hagener Symposium, Heimdall, Witten, 2009, ISBN: 978-939935-39-1.

[10] **L. Röntzsch**, S. Kalinichenka, B. Kieback, *Microstructure and De-/Hydrogenation Behavior of Melt-Spun Mg-Ni-Y Alloys as Hydrogen Storage Materials*, pp. 1085-1090 in K.U. Kainer (Ed.): *Magnesium*. *Proceedings of the 8th International Conference on Magnesium Alloys and their Applications*, Wiley-VCH, Weinheim, 2009, ISBN: 978-3-527-32732-4.

[11] Th. Schmidt, **L. Röntzsch**, S. Kalinichenka, J. Meinert, B. Kieback, *Entwicklung reversibler Wasserstoffspeichersysteme auf Basis nanostrukturierter Metallhydride*, Chemie Ingenieur Technik, **81** (2009), p. 1136.

[12] S. Kalinichenka, **L. Röntzsch**, B. Kieback, *Structural and hydrogen storage properties of melt-spun Mg–Ni–Y alloys*, Intl. J. Hydrogen Energy **34** (2009) pp. 7749-7755.

[13] **L. Röntzsch**, *Shape evolution of nanostructures by thermal and ion beam processing*, Wissenschaftlich-technische Berichte des Forschungszentrums Dresden-Rossendorf, FZR-488, 2008, 177 p.

[14] **L. Röntzsch**, K.H. Heinig, J.A. Schuller, M.L. Brongersma, *Thin film patterning by surface-plasmon-induced thermocapillarity*, Appl. Phys. Lett. **90** (2007) pp. 044105/1-3.

[15] B. Schmidt, K.H. Heinig, **L. Röntzsch**, K.H. Stegemann, *Nanocluster memories by ion beam synthesis of Si in SiO_2*, Mater. Sci. Poland **25** (2007) pp. 1213-1222.

[16] B. Schmidt, A. Mücklich, **L. Röntzsch**, K.H. Heinig, *How do high energy heavy ions shape Ge nanoparticles embedded in SiO_2?,* Nucl. Instr. Methods B **257** (2007) pp. 30-32.

[17] **L. Röntzsch**, K.H. Heinig, B. Schmidt, A. Mücklich, *Experimental evidence of Si nanocluster δ-layer formation in the vicinity of ion-irradiated SiO_2-Si interfaces*, Nucl. Instr. Methods B **242** (2006) pp. 149-151.

[18] B. Schmidt, K.H. Heinig, **L. Röntzsch**, T. Müller, K.H. Stegemann, E. Votintseva, *Ion irradiation through SiO_2/Si interfaces: Non-conventional fabrication of Si nanocrystals for memory applications*, Nucl. Instr. Methods B **242** (2006) pp. 146-148.

[19] **L. Röntzsch**, K.H. Heinig, B. Schmidt, A. Mücklich, W. Möller, J. Thomas, T. Gemming, *Direct evidence of self-aligned Si nanocrystals formed by ion irradiation of Si/SiO_2 interfaces*, physica status solidi A **202** (2005) pp. R170-R172.

[20] **L. Röntzsch**, K.H. Heinig, *Reaction pathways of ion beam synthesis and stability of monocrystalline nanowires*, pp. 165-169 in P. Pödör *et al.* (Eds.): *Proceedings Intl. Workshop on Semicond. Nanocrystals*, Vol. 1, Budapest, Hungary, 2005, ISBN 963-7371-18-4.

[21] **L. Röntzsch**, K.H. Heinig, B. Schmidt, *Experimental Evidence of Si Nanocluster δ-Layer Formation in Buried and Thin SiO_2 Films Induced by Ion Irradiation*, Mater. Sci. Semicond. Proc. **7** (2004) pp. 357-362.

[22] **L. Röntzsch**, *Self-Organization of Nanocluster Delta-Layers at Ion-Beam-Mixed Si-SiO_2 Interfaces*, Wissenschaftlich-technische Berichte des Forschungszentrums Rossendorf, FZR-392, 2003, 91 p.